

CLAIMS:

1. A method of detecting the presence of a cancer expressing SGP28 protein that comprises determining the level of SGP28 protein expressed by cells in a test tissue sample from an individual and comparing the level so determined to the level of SGP28 expressed in a corresponding normal sample, the presence of elevated SGP28 protein in the test sample relative to the normal sample providing an indication of the presence of such cancer in the individual.
2. The method of claim 1, wherein determining the level of SGP28 protein expressed by the cells comprises contacting the cells with an antibody that specifically binds SGP28 protein.
3. The method of claim 2, wherein the antibody comprises a polyclonal antibody.
4. The method of claim 2, wherein the antibody comprises a monoclonal antibody.
5. A method of monitoring SGP28 gene products comprising determining the status of SGP28 gene products expressed by cells in a test tissue sample from an individual and comparing the status so determined to the status of SGP28 gene products in a corresponding normal sample, the presence of altered status of SGP28 gene products in the test sample relative to the normal sample providing an indication of dysregulated cell growth within the individual.
6. A method of examining a biological sample for evidence of dysregulated cellular growth comprising comparing the status of SGP28 in the biological sample to the status of SGP28 in a corresponding normal sample, wherein alterations in the status of SGP28 in the biological sample are associated with dysregulated cellular growth.
7. The method of claim 6, wherein the status of SGP28 in the biological sample is evaluated by examining levels of SGP28 mRNA expression or levels of SGP28 protein expression.

8. The method of claim 6, wherein an alteration in the status of SGP28 is identified by the presence of SGP28 expressing cells in a biological sample from a tissue in which SGP28 expressing cells are normally absent.

9. A method of diagnosing the presence of cancer in an individual comprising:

5 (a) determining the level of SGP28 mRNA expressed in a test sample obtained from the individual; and

(b) comparing the level so determined to the level of SGP28 mRNA expressed in a comparable known normal tissue sample,

the presence of elevated SGP28 mRNA expression in the test sample relative to the normal tissue sample providing an indication of the presence of cancer.

10. A method of diagnosing the presence of cancer in an individual comprising:

(a) determining the level of SGP28 protein expressed in a test sample obtained from the individual; and

(b) comparing the level so determined to the level of SGP28 protein expressed in a comparable known normal tissue sample,

the presence of elevated SGP28 protein in the test sample relative to the normal tissue sample providing an indication of the presence of cancer.

11. The method of claim 10, wherein the cancer is prostate or colon cancer, and the test and normal tissue samples are selected from the group consisting of prostate tissue, colon tissue, lymphatic tissue, serum, blood or semen.

12. The method of claim 10, wherein determining the level of SGP28 protein expressed in the test sample comprises contacting the sample with an antibody that specifically binds SGP28 protein.

13. The method of claim 12, wherein the antibody comprises a polyclonal antibody.

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18. A pharmaceutical composition comprising a polynucleotide that encodes a SGP28 polypeptide, wherein the polypeptide includes an amino acid sequence selected from the group consisting of NCSN (SEQ ID NO: 8); SLK; SWFD (SEQ ID NO: 9); SCPD (SEQ ID NO: 10); KCGENLY (SEQ ID NO: 11); GLLPSF 26-31 (SEQ ID NO: 12); GCGNAY (SEQ ID NO: 13); GNWANR (SEQ ID NO: 14); GAPCAS (SEQ ID NO: 15); GLCTNG (SEQ ID NO: 16); amino acids 2-10 of Table 2 (TLFPVLLFL; SEQ ID NO: 17), amino acids 6-14 of Table 2 (VLLFLVAGL; SEQ ID NO: 18), amino acids 30-38 of Table 2 (ALLTTQTQV; SEQ ID NO: 19), amino acids 142-150 of Table 2 (VVWYSSYLV; SEQ ID NO: 20), amino acids 222-230 of Table 2 (TLTCKHQLV; SEQ ID NO: 21), amino acids 175-183 of Table 2 (GNWANRLYV; SEQ ID NO: 22), amino acids 7-15 of Table 2 (LLFLVAGLL; SEQ ID NO: 23), amino acids 141-149 of Table 2 (QVVWYSSYL; SEQ ID NO: 24), amino acids 134-142 of Table 2 (AVVGHYTQV; SEQ ID NO: 25), and amino acids 211-219 of Table 2 (DLYSNCKSL; SEQ ID NO: 26).
 19. A pharmaceutical composition of claim 16, wherein the polynucleotide is labeled with a detectable marker.
 20. A pharmaceutical composition comprising a SGP28 polypeptide encoded by the polynucleotide of claim 16.
 21. A pharmaceutical composition comprising a polypeptide having at least 15 contiguous amino acids of the polypeptide of claim 20.
 22. A pharmaceutical composition comprising an antibody or fragment thereof that specifically binds to the SGP28 polypeptide of claim 20.
 23. The pharmaceutical composition of claim 22, wherein the antibody or fragment thereof is monoclonal.
 24. A pharmaceutical composition comprising a recombinant protein having the antigen binding region of a monoclonal antibody of claim 23.

25. The pharmaceutical composition of claim 22, wherein the antibody or fragment thereof is labeled with a detectable marker.
26. The pharmaceutical composition of claim 25, wherein the detectable marker is selected from the group consisting of a radioisotope, fluorescent compound, bioluminescent compound, chemiluminescent compound, metal chelator or enzyme.
27. The pharmaceutical composition of claim 22, wherein the antibody fragment comprises an Fab, F(ab')₂, Fv or sFv fragment.
28. The pharmaceutical composition of claim 22, wherein the antibody or fragment thereof comprises a human antibody.
29. The pharmaceutical composition of claim 22, wherein the antibody or fragment thereof is conjugated to a toxin or a therapeutic agent.
30. The pharmaceutical composition of claim 23, wherein the antibody comprises murine antigen binding region residues and human antibody residues.
31. A pharmaceutical composition comprising a single chain monoclonal antibody having the variable domains of the heavy and light chains of a monoclonal antibody of claim 23.
32. A vaccine composition for the treatment of a cancer expressing SGP28 comprising an immunogenic portion of a SGP28 protein and a physiologically acceptable carrier.
33. The vaccine composition of claim 32, wherein the immunogenic portion of a SGP28 protein is selected from the group consisting of amino acids 2-10 of Table 2 (TLFPVLLFL; SEQ ID NO: 17), amino acids 6-14 of Table 2 (VLLFLVAGL; SEQ ID NO: 18), amino acids 30-38 of Table 2 (ALLTTQTQV; SEQ ID NO: 19), amino acids 142-150 of Table 2 (VWYSSYL; SEQ ID NO: 20), amino acids 222-230 of Table 2 (TLTCKHQLV; SEQ ID NO: 21), amino acids 175-183 of Table 2 (GNWANRLYV; SEQ ID NO: 22), amino acids 7-15 of Table 2 (LLFLVAGLL;

SEQ ID NO: 23), amino acids 141-149 of Table 2 (QVWYSSYL; SEQ ID NO: 24), amino acids 134-142 of Table 2 (AVVGHYTQV; SEQ ID NO: 25), and amino acids 211-219 of Table 2 (DLYSNCKSL; SEQ ID NO: 26).

- 5 34. A vaccine composition for the treatment of a cancer expressing SGP28 comprising a polynucleotide encoding an immunogenic portion of a SGP28 protein and a physiologically acceptable carrier.
- 10 35. The vaccine composition of claim 34, wherein the immunogenic portion of a SGP28 protein is selected from the group consisting of amino acids 2-10 of Table 2 (TLFPVLLFL; SEQ ID NO: 17), amino acids 6-14 of Table 2 (VLLFLVAGL; SEQ ID NO: 18), amino acids 30-38 of Table 2 (ALLTTQTQV; SEQ ID NO: 19), amino acids 142-150 of Table 2 (VWYSSYLV; SEQ ID NO: 20), amino acids 222-230 of Table 2 (TLTCKHQLV; SEQ ID NO: 21), amino acids 175-183 of Table 2 (GNWANRLYV; SEQ ID NO: 22), amino acids 7-15 of Table 2 (LLFLVAGLL; SEQ ID NO: 23), amino acids 141-149 of Table 2 (QVWYSSYL; SEQ ID NO: 24), amino acids 134-142 of Table 2 (AVVGHYTQV; SEQ ID NO: 25), and amino acids 211-219 of Table 2 (DLYSNCKSL; SEQ ID NO: 26).
- 15 36. A vaccine composition for the treatment of a cancer expressing SGP28 comprising polynucleotide encoding a single chain monoclonal antibody that comprises the variable domains of the heavy and light chains of a monoclonal antibody that specifically binds to a SGP28 protein
- 20 37. A method of inhibiting the development of a cancer expressing SGP28 in a patient, comprising administering to the patient an effective amount of the vaccine composition of claim 34.
- 25 38. A method of inhibiting the development of a cancer expressing SGP28 in a patient, comprising administering to the patient an effective amount of the vaccine composition of claim 36.